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BULLETIN
OF THE
TORREY BOTANICAL CLUB

DECEMBER, 1918

Notes on plants of the southern United States—IV

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THE GENUS *CROTONOPSIS*

In 1803 Michaux published in his "Flora Boreali-Americana" a new genus of plants to which, from its evident likeness to *Croton*, he gave the name of *Crotonopsis*. The genus has been maintained continuously from that time, although twice have attempts been made to rechristen it. In 1826 Sprengel, without comment, proposed to substitute *Friesia*, and twelve years later Rafinesque, remarking that "the name previously given was absurd and incorrect," announced his *Leptemon*. According to current rules of nomenclature *Crotonopsis* must be held.

Michaux collected *Crotonopsis* twice, and, in the plate which accompanies the description of his species *C. linearis*, he fortunately figured both the specimens obtained. The drawing to the left hand shows a low plant with lanceolate or elliptic-lanceolate leaves and with fruits few and axillary, that to the right is of a side-branch of a taller plant with narrower longer leaves and with conspicuously elongated spikes. Two localities are cited in the text, Long-bay, Carolina, and the Illinois region. From evidence to be presented it is clear that two species are illustrated, and, from the form of its leaves, that to the right is the one entitled to the name *C. linearis*. Fortunately it is also that from the locality first cited. True *C. linearis* Michx. is a plant restricted to the Coastal Plain of the southeastern states.

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In 1805, but two years later, Willdenow added a second species, *Crotonopsis elliptica*. His plant is stated to differ from the linear-leaved *C. linearis* Michx. in its leaves being elliptic, rounded to each end, and in its spikes being shorter. Evidently *C. elliptica* is our oldest name for the widely-ranging northern and inland species. As this plant extends to the Gulf coast, incidentally overlapping the range of *C. linearis*, the type-region, "Carolina," is well within its normal range.

The later history of the genus may be briefly sketched. Pursh in 1814 combined both species, though as varieties, in one, his *C. argentea*. Nearly to the close of the past century the genus was uniformly considered monotypic. But in 1895 Nash, from a single collection from Florida, added a second species, *C. spinosa*. As a matter of fact he was actually recharacterizing Michaux's *C. linearis*, laying primary emphasis upon newly discovered features of the fruit.

Spikes short, of but one or two fruits. Staminate flowers less than 1 mm. in diameter; filaments shorter than the sepals, and but little longer than the anthers. Fruit ovoid, with an evident median vein on each side; scale-like hairs on fruit with broad brown disk, umbonate to tuberculate-raised, even occasionally into a short spine, and with its margin of relatively uniform closely appressed white rays. Leaves lanceolate to ovate-lanceolate, 1.5-3 cm. long; stellate hairs on upper surface with long rays which overlap those of adjoining hairs. Plant usually 1-5 dm. tall.

1. *C. elliptica*.

Spikes longer, slender, of three to six fruits. Staminate flowers more than 1 mm. in diameter; filaments longer than the sepals, and much longer than the anthers. Fruit ellipsoid, without evident vein on the side; scale-like hairs on fruit with minute disk, which is usually raised into a decided tubercle or spine, and with long irregular stellate not closely appressed slightly brownish rays. Leaves lanceolate-linear, 2-4 cm. long; stellate hairs on upper surface with short rays which do not overlap those of adjoining hairs. Plant usually 4-8 dm. tall.

2. *C. linearis*.

1. *CROTONOPSIS ELLIPTICA* Willd.

Crotonopsis elliptica Willd. Sp. Pl. 4: 380. 1805. "Habitat in Carolina."

Crotonopsis argentea elliptica Pursh, Fl. Am. Sept. 1: 206. 1814.

Dry sandy soil, Connecticut to northern Florida, west to eastern Kansas and central Texas; northward in or near the Coastal Plain, southward mostly inland, on granitic rocks of the Piedmont and southern Appalachian regions. Numerous specimens seen. The most southwestern studied are from sandy post-

oak woods, Sheridan, Colorado County, Texas, my number 5533, and are unique in that the plants were uniformly 7-8 dm. tall, and the fruit relatively large and somewhat brownish instead of being nearly black.

2. CROTONOPSIS LINEARIS Michx.

Crotonopsis linearis Michx. Fl. Bor. Am. 2: 186. pl. 46 p.p. 1803. "Hab. in maritimis Carolinae, juxta Long-Bay, et in regione Illinoensi." Two plants figured. One is a plant with lanceolate-linear leaves and slender spikes, the other with lanceolate to ovate-lanceolate leaves and flowers one to two together. As Illinois specimen certainly the latter, and as the former is known in the maritime region of Carolina, and is the plant to which the name *linearis* better applies, this is selected as the type.

Crotonopsis argentea Pursh, Fl. Am. Sept. 1: 206. 1814. Consists of two varieties; name is here applied to first.

Crotonopsis argentea linearis Pursh, l. c.

Friesia argentea Spreng. Syst. 3: 850. 1826. Without citation of Pursh.

Leptemon lineare Raf. Sylva Tellur. 67. 1838.

Crotonopsis spinosa Nash, Bull. Torrey Club 22: 157. 1895.

"Collected by Mr. W. T. Swingle [1397a] at Dunellon [Florida], July 24 [1894]." Type seen in the herbarium of Columbia University at the New York Botanical Garden.

Dry sandy soil, in the Coastal Plain, South Carolina to central Florida and eastern Texas, extending inland near the Mississippi River to southern Illinois and southeastern Missouri, and in Texas to Dallas.

SOUTH CAROLINA. Beaufort: Bluffton, *Mellichamp* (M). Charleston: Mt. Pleasant, *L. R. Gibbes* (Y).

GEORGIA. Lowndes: Olympia, *R. M. Harper* 1593 (M, U, Y). Mitchell: *R. M. Harper* 1168 (M, U, Y).

FLORIDA. Baker: Macclenay, *L. H. Lighthipe* 586 (Y). Brevard: Melbourne, *Curtiss* 5715 (M, U, Y). Escambia: Pensacola, *J. M. Macfarlane* (P). Hillsboro: Tampa, *A. P. Garber* (U). Jefferson: *Hitchcock* (M). Lake: Eustis, *Nash* 1971 (M, U, Y). Leon: Tallahassee, *N. K. Berg* (Y). Marion: Dunnellon,

Swingle 1397a (U, Y). Orange: *A. Fredholm 5389* (Y). Pinellas: Ozona, *F. L. Lewton* (Y). St. John: St. Augustine, *M. C. Reynolds* (P). Sumter: Wildwood, *H. J. Webber* (M). Suwanee: Live Oak, *Curtiss 6897* (M, U, Y).

MISSISSIPPI. Oktibbeha: Starkville, *S. M. Tracy* (M).

ILLINOIS. Mason: "sandy barrens," *E. Hall* (M).

MISSOURI. Dunklin: Campbell, *Bush* (M). Stoddard: *Bush 124* (Y).

TEXAS. Dallas: Dallas, *Reverchon 869* (M, Y), *3177* (M), *4366* (M, U). Waller: Hempstead, *E. Hall 575* p.p. (M, U, Y).

MISCELLANEOUS RECORDS

HYPERICUM OPACUM T. & G.

Collected in flower August 15, 1912, in moist long-leaf pineland, Ozone Park, St. Tammany Parish, Louisiana, my number *4216*.

LECHEA LEGGETTII Britton & Hollick

Collected in fruit August 14, 1912, in dry open long-leaf pineland, Abita Springs, St. Tammany Parish, Louisiana, my number *4162*. Wide-spread through the southeastern states, reaching Florida and Louisiana.

RHEXIA LUTEA Walt.

Collected in fruit August 14, 1912, in moist long-leaf pineland, Abita Springs, Louisiana, my number *4198*.

RHEXIA NASHII Small

Collected in flower August 16, 1912, moist sandy soil near Mandeville, St. Tammany Parish, Louisiana, my number *4239*. Through the long-leaf pineland of the Coastal Plain, North Carolina to Florida and Louisiana. When seen living, readily distinguished from *R. mariana* L. by its flowers, the petals of which are much larger, 18-25 mm. long, and deep purple-pink.

Rhexia interior Pennell, nom. nov.

Rhexia latifolia Bush, *Rhodora* 13: 167. 1911. Not *Rhexia latifolia* Aubl. Pl. Gui. 1: 336. 1775. Aublet's plant is not retained in the genus *Rhexia* as today understood, a fact which

under the Vienna Code permits the repetition of the same specific name.

Collected in fruit September 8, 1913, moist shady soil, west of Sapulpa, Creek County, Oklahoma, my number 5389.

The following key to the species of *Rhexia* is offered:

Anthers relatively short, oblong, straight, not spurred at base.

Petals yellow. Leaves lanceolate.

1. *R. tulea* Walt.

Petals pink-purple. Leaves ovate.

Hypanthium glabrous. Upper surface of the leaves hirsute.

2. *R. petiolata* Walt.

Hypanthium glandular-hirsute. Upper surface of the leaves glabrous.

3. *R. serrulata* Nutt.

Anthers longer, linear, curved, spurred at the base.

Anther-sacs very slightly spurred. Petals less than 10 mm. long, white.

4. *R. parviflora* Chapm.

Anther-sacs evidently spurred. Petals more than 10 mm. long, pale pink (or white in *R. lanceolata*) to pink-purple.

Leaves membranous, green; lateral nerves not close to the margin; upper surface of some or all leaves hirsute. Hypanthium glandular-hirsute to glabrous.

Apex of hypanthium not lanose. Calyx-lobes less than one-third length of hypanthium.

Stem obscurely if at all winged, internodes conspicuously hirsute.

Leaves narrowed at base. Neck of hypanthium equaling or but slightly shorter than the body.

Petals pale-pink to white, 10-15 mm. long. Buds with sepal tips mostly spreading-recurved.

Leaves elliptic-ovate to lanceolate, all evidently three-veined, mostly over 2 cm. long, the lower with a more or less petiolar base.

Leaves elliptic-ovate, on evident petioles 3-4 mm. long. Petals about 10 mm. long.

5. *R. delicatula* Small.

Leaves lanceolate to elliptic-lanceolate, on ill-defined petioles. Petals 12-15 mm. long.

6. *R. mariana* L.

Leaves narrowly-lanceolate to linear, only the main stem-leaves if any three-veined, mostly less than 2 cm. long, sessile. Petals 10-12 mm. long.

7. *R. lanceolata* Walt.

Petals deep purple-pink. Buds with sepal-tips mostly ascending-appressed.

Petals 18-25 mm. long. Hypanthium 10-14 mm. long, its neck equaling the body. Stem obscurely angled.

Leaves linear, sparsely hirsute, lateral nerves obscure.

8. *R. cubensis* Griseb.

- Leaves lanceolate, conspicuously hirsute, lateral nerves prominent. 9. *R. Nashii* Small.
 Petals 10-14 mm. long. Hypanthium 7-8 mm. long, its neck slightly shorter than the body. Stem relatively sharply angled. 10. *R. interior* Pennell.
 Stem conspicuously wing-angled, the internodes sparsely hirsute to glabrous. Leaves rounded at base, the upper clasping. Neck of hypanthium much shorter than the body. Petals deep purple-pink.
 Internodes of stem sparsely hirsute. Leaves ovate. Hypanthium hirsute. 11. *R. virginica* L.
 Internodes of stem glabrous. Leaves ovate-lanceolate. Hypanthium sparsely glandular-pubescent to glabrous. 12. *R. stricta* Pursh.
 Apex of hypanthium lanose with glandless yellow hairs. Calyx-lobes more than one-half length of hypanthium. 13. *R. aristosa* Britton.
 Leaves firm, glaucescent, lateral nerves following closely the margin of the blade; upper surface glabrous. Hypanthium densely glandular-pubescent. 14. *R. Alifanus* Walt.

RAIMANNIA DRUMMONDII (Hook.) Rose

Collected in flower October 12, 1912; beaches and, Sullivan Island, Charleston County, South Carolina, my number 4857. Extensively spreading from Texas along the coastal dunes of the southeastern states.

MYRIOPHYLLUM PROSERPINACOIDES Gill.

Pool in long-leaf pine-land, Mandeville, St. Tammany Parish, Louisiana, my number 4205. Established also in ditches at Houma, Terre Bonne Parish. Naturalized from Chile.